

Application No. 10/801,049
 Reply to Office Action of November 21, 2006

Docket No.: 13077-00101-US

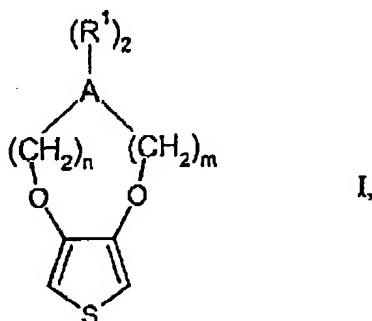
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AMENDMENTS TO THE CLAIMS

Claims

1. (Currently amended) Compound of the formula I



where

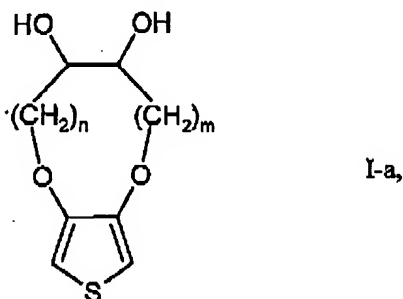
n and m are each, independently of one another, an integer from 1 to 5,

A is a methylene or ethylene radical,

where A bears two substituents R¹ and

R¹ is, in each case, a C₁-C₆-hydroxyalkyl radical, preferably a hydroxymethyl or hydroxyethyl radical, particularly preferably a hydroxymethyl radical or a hydroxyl radical.

2. (Original) Compound according to Claim 1 having the formula I-a



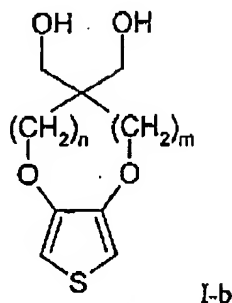
where

n and m are each, independently of one another, an integer from 1 to 5.

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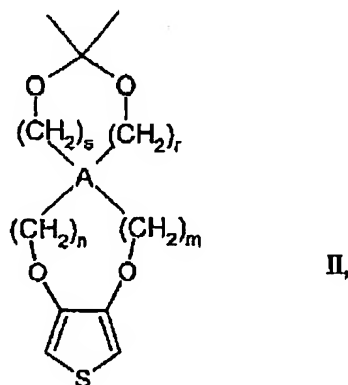
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3. (Original) Compound according to Claim 1 having the formula I-b



where n and m are each, independently of one another, an integer from 1 to 5.

4. (Original) Compound according to Claim 1, characterized in that n and m are each 1.
 5. (Original) Compound of the formula II



where r and s are each, independently of one another, an integer from 1 to 6,

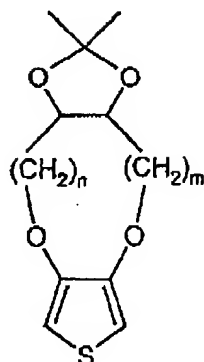
n and m are each, independently of one another, an integer from 1 to 5,

A is a methylene or ethylene radical.

6. (Original) Compound according to Claim 5 of the formula II-a

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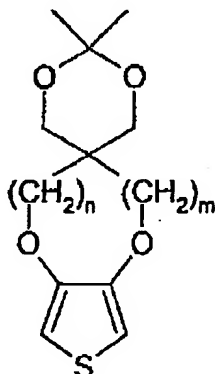


II-a,

where

n and m are each, independently of one another, an integer from 1 to 5.

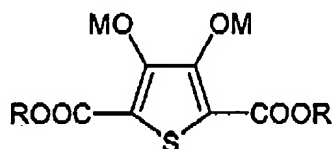
7. (Original) Compound according to Claim 5 having the formula II-b



II-b,

where n and m are each, independently of one another, an integer from 1 to 5.

8. (Original) Compound according to Claim 5, characterized in that n and m are each 1.
 9. (Original) Process for preparing a compound according to Claim 1, characterized in that a thiophene of the formula III



III,

where

R is C₁-C₁₈-alkyl and

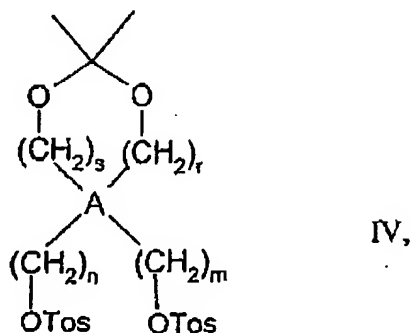
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M is H, Li, Na or K;

is reacted with a compound of the formula IV



where

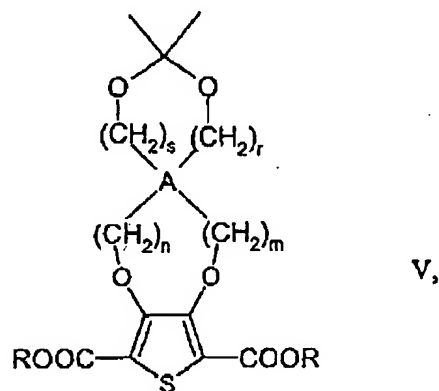
r and s are each, independently of one another, 0 or an integer from 1 to 6,

n and m are each, independently of one another, an integer from 1 to 5,

A is a methylene or ethylene radical,

Tos is p-toluenesulphonyl,

to form a compound of the formula V



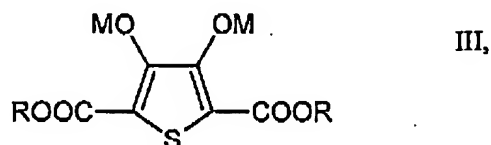
where A, R, r, s, n and m are as defined above for the formulae III and IV,

and the compound of the formula V is subsequently hydrolyzed, acidified and decarboxylated.

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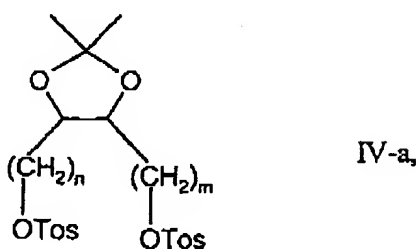
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10. (Original) Process according to Claim 9, characterized in that a thiophene of the formula III



where M and R are as defined in Claim 9,

is reacted with a compound of the formula IV-a

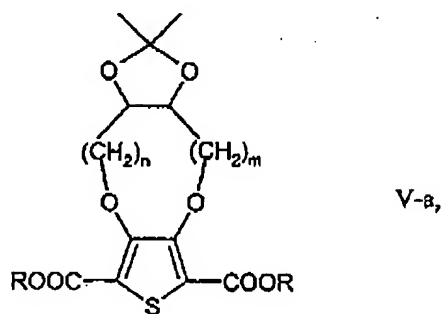


where

n and m are each, independently of one another, an integer from 1 to 5 and

Tos is p-toluenesulphonyl,

to form a compound of the formula V-a



where

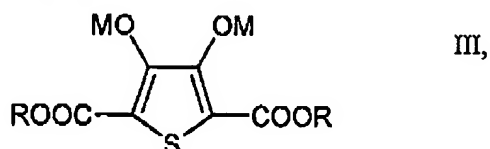
R, n and m are as defined for the formulae III and IV-a,

and the compound of the formula V-a is subsequently hydrolyzed, acidified and decarboxylated.

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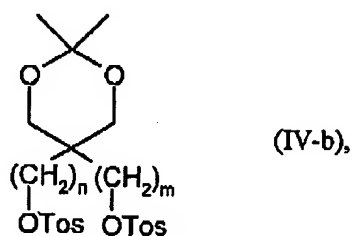
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11. (Original) Process according to Claim 9, characterized in that a thiophene of the formula III



where M and R are as defined in Claim 9,

is reacted with a compound of the formula IV-b

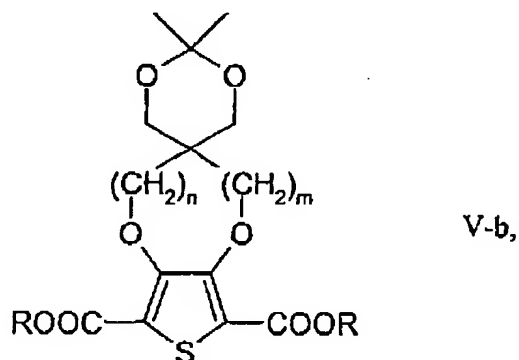


where

n and m are each, independently of one another, an integer from 1 to 5 and

Tos is p-toluenesulphonyl,

to form a compound of the formula V-b



where

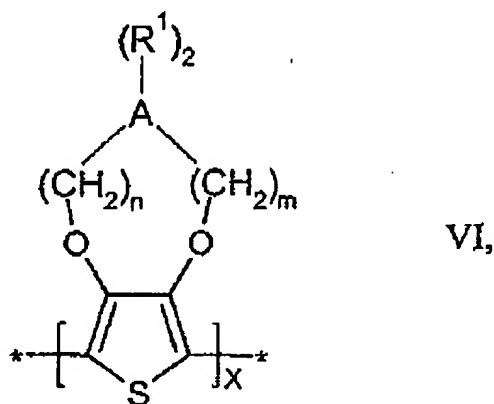
R, n and m are as defined for the formulae III and IV-b,

and the compound of the formula V-b is subsequently hydrolyzed, acidified and decarboxylated.

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12. (Currently amended) Use of a compound according to Claim 1 for preparing an electrically An electrically conductive oligomer or polymer which comprises the compound according to claim 1.
13. (Cancelled)
14. (Cancelled)
15. (Original) Electrically conductive oligomer or polymer comprising structural units of the formula VI



where

A is a methylene or ethylene radical,

where A bears two substituents R^1 and

R^1 is, in each case, a C_1 - C_6 -hydroxyalkyl radical, preferably a hydroxymethyl or hydroxyethyl radical, particularly preferably a hydroxymethyl radical, or a hydroxyl radical,

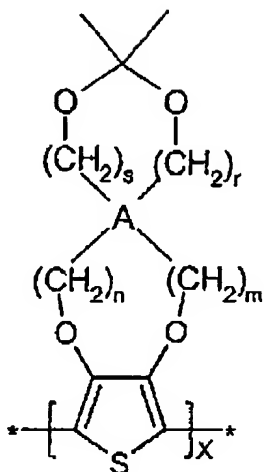
n and m are each, independently of one another, an integer from 1 to 5 and

x is an integer from 2 to 10 000,

and/or the formula VII,

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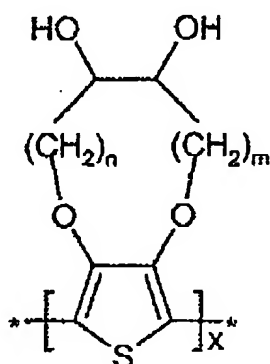
VII,

where

r and s are each, independently of one another, 0 or an integer from 1 to 6

and n, m, A and x are as defined for the formula VI.

16. (Original) Electrically conductive oligomer or polymer according to Claim 15 comprising structural units of the formula VI-a

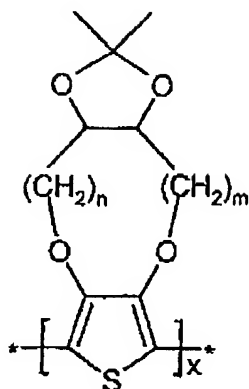


VI-a,

where n, m and x are as defined in Claim 15, and/or of the formula VII-a,

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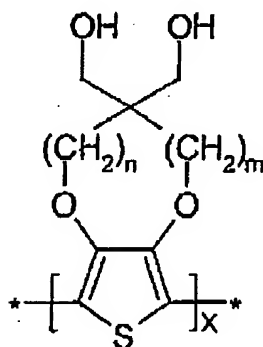
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VII-a,

where n, m and x are as defined in Claim 15.

17. (Original) Electrically conductive oligomer or polymer according to Claim 15 comprising structural units of the formula VI- b

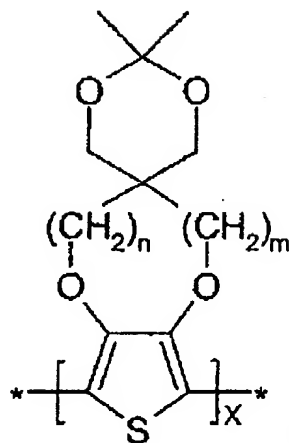


VI-b,

where n, m and x are as defined in Claim 15, and/or of the formula VII-b

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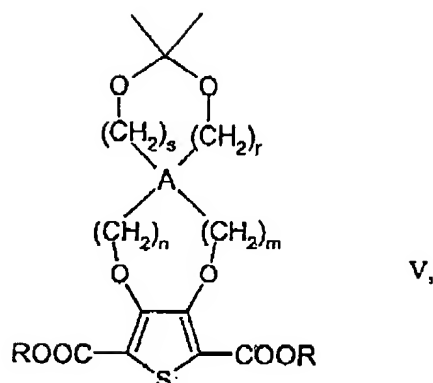
VII-b,

where n, m and x are as defined in Claim 15.

18. (Original) Electrically conductive oligomer or polymer according to Claim 15, characterized in that it is a copolymer comprising structural units of the formula VI and/or VII together with 3,4-ethylenedioxythiophene structural units.
19. (Currently amended) ~~Use of an electrically conductive oligomer or polymer according to Claim 15 as hole A hole injection layer in organic light-emitting diodes, as smoothing a smoothing layer for ITO layers in organic light-emitting diodes, a colour-imparting or as colour-imparting electrochromic or ion-storing counterelectrode in electrochromic assemblies which comprises the electrically conductive oligomer or polymer according to Claim 15.~~
20. (Currently amended) ~~Use of an electrically conductive oligomer or polymer according to Claim 15 in organic Organic field effect transistors which comprise the electrically conductive oligomer or polymer according to Claim 15.~~
21. (Currently amended) ~~Use of an electrically conductive oligomer or polymer according to Claim 15 in elimination of A process in eliminating static electricity, in through-plated holes of printed circuits, in corrosion protection, in sensors or as conductive layer in inorganic light-emitting diodes which comprise using the electrically conductive oligomer or polymer according to Claim 15.~~
22. (Original) Compound of the formula V

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where

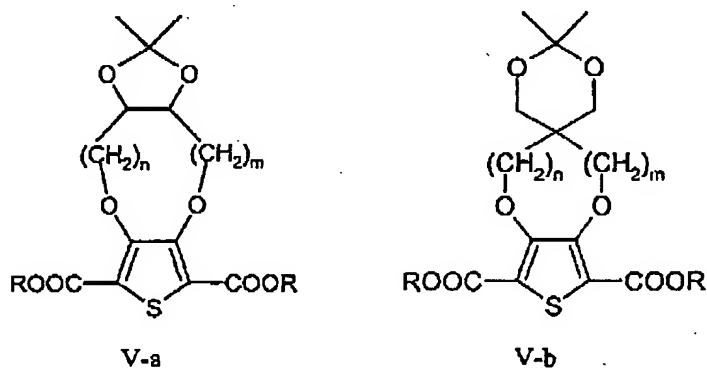
R is C₁-C₁₈-alkyl,

r and s are each, independently of one another, 0 or an integer from 1 to 6,

n and m are each, independently of one another, an integer from 1 to 5,

A is a methylene or ethylene radical.

23. (Original) Compound according to Claim 22 having the formula V-a or V-b



where R, n and m are as defined in Claim 22.

24. (New) Compound according to claim 1, wherein

R¹ is, in each case, a hydroxyl radical, hydroxymethyl radical or hydroxyethyl radical.

25. (New) A capacitor which comprises the compound according to Claim 1.

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26. (New) A capacitor which comprises a mixture of the compound according to Claim 1 and 3,4-ethylenedioxythiophene.